#### DEPARTMENT OF THE NAVY



NAVAL SEA SYSTEMS COMMAND 1333 ISAAC HULL AVE SE WASHINGTON NAVY YARD DC 20376-0001

IN REPLY TO

9555

Ser: 05P4/137 5 November 2004

From:

Commander, Naval Sea Systems Command

Subi:

ADVANCE CHANGE NOTICE (ACN) 2/A TO NSTM 079V2R2 - CHANGES TO DAMAGE

CONTROL MANUAL PLOTTING

Ref: (a) Naval Ships' Technical Manual, NAVSEA S9086-CN-STM-020, Chapter 079, Volume 2

"PRACTICAL DAMAGE CONTROL," Revision 2, Dated 31 Dec 2000

Encl: (1) ACN 2/A to NSTM 079 Volume 2 Revision 2

1. This letter provides enclosure (1), Advance Change Notice (ACN) 2/A (NSWC Port Hueneme control number N00024-04-DS05) to reference (a). This ACN will be incorporated into the next revision. Recipients are requested to incorporate the following changes provided by enclosure (1):

> Remove Appendix B-1

Insert

Appendix B-1

- a. Note: Do not remove Appendix B-2.
- 2. This ACN changes the method of manual plotting used by shipboard damage control personnel. It implements Rapid Plotting, which replaces the triangle symbology system. For more information on Rapid Plotting" link to view the ACN and Rapid Plotting information including: Message Blanks for Each ship class, Examples of the plotting methods and a training PowerPoint presentation.
- 3. This ACN does not authorize modification of existing Government contracts, project orders, work requests or allotments. Therefore, requests must be made to cognizant authorities for authorization and funding as may be required to accomplish this ACN. Cognizant authorities are requested to authorize, transition, and implement this ACN as rapidly as possible.
- 4. The NAVSEA point of contact is Mr. Hank Kuzma, NAVSEA 05P4, DSN: 326-3634, commercial (202) 781-3634, email: <a href="mailto:kuzmahj@navsea.navy.mil">kuzmahj@navsea.navy.mil</a>. This letter may be downloaded at <a href="http://www.dcfp.navy.mil">http://www.dcfp.navy.mil</a>.

) Mc Cary by direction

Subj:

B-2

ADVANCE CHANGE NOTICE (ACN) 2/A TO NSTM 079V2R2 - CHANGES TO DAMAGE CONTROL MANUAL PLOTTING

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Blind copy to:
SEA 04M1
   04R
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#### APPENDIX B

# STANDARD SYMBOLOGY FOR DAMAGE CONTROL RAPID PLOTTING AND COMPUTER CASUALTY REPORTING AND PLOTTING

#### 079-B.1 CONTENTS AND USAGE

Appendix B contains two sections: Appendix B-1, Standard Symbology for Damage Control Rapid Plotting, is for ships that have only hardcopy damage control diagrams for manual plotting. Appendix B-2, Standard Symbology for Damage Control Computer Casualty Reporting and Plotting, is for ships that have computers for damage control. Computer-generated symbology and casualty plotting replaces manual grease pencils and DC diagrams with advanced icons. Computer-generated symbology should be used as a stand-alone tool in DC Central, as a damage control organization communication tool or as a command structure damage control tool (depending on the level of automation within the ship).

ACN 2/A<sub>.</sub> B-1 / (B-2 Blank)

1 / (2 Blank) ENCLOSURE (1)

#### **APPENDIX B-1**

## STANDARD SYMBOLOGY FOR DAMAGE CONTROL $\underline{RAPID\ PLOTTING}$

ACN 2/A

# FIRE BOUNDARIES

Explanation	Example
FB Fire Boundaries Ordered  (Primary and Secondary Boundaries)	FB SPPS 2221 7407 0505
FB Fire Boundaries Set	SPPS 2221 7407 0505

Figure 079-B-1 Rapid Plotting Symbology (1 of 28)

### **SMOKE BOUNDARIES**

Explanation	Example
SB Smoke Boundaries Ordered  (Primary and Secondary Boundaries)	SB SPPS 2221 7407 0505
SB Smoke Boundaries Set	SB SPPS 2221 7407 0505

Figure 079-B-1 Rapid Plotting Symbology (2 of 28)

B-2

### FLOODING BOUNDARIES

Explana	tion	Example
FLB (Primary and Secondary Boundaries)	Flooding Boundaries Ordered	FLB  SPPS 2221 7407 0505
FLB	Flooding Boundaries Set	FLB SPPS 2221 7407 0505

Figure 079-B-1 Rapid Plotting Symbology (3 of 28)

# **CASUALTY BOUNDARIES**

Primary and secondary casualty boundaries are set around multi-casualty areas caused by a significant event, such as a missile strike.

Explanatio	n	Example	
(Primary and Secondary Boundaries)	Casualty Boundaries Ordered	CB SPPS 2221 7407 0505	
СВ	Casualty Boundaries Set	SPPS 2221 7407 0505	

Figure 079-B-1 Rapid Plotting Symbology (4 of 28)

# FIRE (Class A, B, C, or D)

Expla	nation	Example	
(Time)	Class ALPHA Fire Reported	A 1315	_
(Time)	Class ALPHA Fire Engaged	A 1319	
(Time)	No Class ALPHA Fire	1345	

Figure 079-B-1 Rapid Plotting Symbology (5 of 28)

B-4

## SMOKE- BLACK, WHITE, UNKNOWN

Explanation		Example
(Color, if known) (Time)	Smoke Reported	S Black-1315
Equipment used S (Time)	Smoke Engaged (Method)	Water Driven Fan S Black-1325
(Time)	No Smoke	Water Driven Fan  Black-1344

Figure 079-B-1 Rapid Plotting Symbology (6 of 28)

# FIRE PROTECTION SYSTEMS AFFF/HALON/HFP/CO2/MAGSPR/WM

Explana	tion	Example
FPS Type (Time)	Station Manned	FPS  AFFF 1322
FPS AFFF (Time)	Station Activated	FPS AFFF 1340
(Time)	No Station	AFFF 1342

Figure 079-B-1 Rapid Plotting Symbology (7 of 28)

ACN 2/A

## **FLOODING**

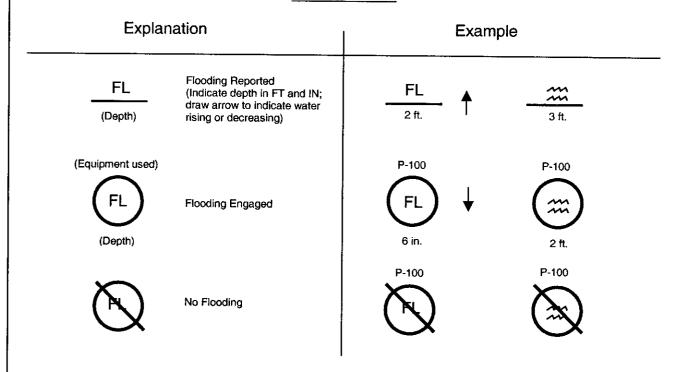


Figure 079-B-1 Rapid Plotting Symbology (8 of 28)

## FIREFIGHTING WATER

Explan	ation	Example
(Depth)	Firefighting Water Reported (Depth in FT and IN)	FFW 4 in.
(Equipment used)  (FFW)  (Depth)	Firefighting Water Engaged (Equipment Used)	1½" eductor  FFW 2 in.
FRW	No Firefighting Water	FAV

Figure 079-B-1 Rapid Plotting Symbology (9 of 28)

B-6

#### PROGRESSIVE FLOODING

Explanation	Example
PFL Progressive Flooding Reported (Depth in FT and IN)	PFL 4 in.
(Equipment used)  PFL Progressive Flooding Engaged  (Depth)	PFL 2 in.
No Progressive Flooding	PEL

Figure 079-B-1 Rapid Plotting Symbology (10 of 28)

#### **RUPTURED SYSTEM**

#### JP5/FO/LO/HM/FM/CW/ECW/FW/SW

Explana	tion	Example
R	Rupture Reported (System, if known)	R
(System) (Location)	(Pinpoint damage)	FM FM FR 155 STBD, Overhead
(Rupture Boundaries	s)	4-155-2 3-147-9
R	Rupture Engaged	R
(System) (Location)		FM FR 155 STBD, Overhead
$\sim$		TR 100 STBD, Overnead
	No Rupture	
	Figure 079-B-1 Rapid Plott	l ting Symbology (11 of 28)

ACN 2/A

#### STRUCTURAL DAMAGE

Explanation		Example
STR (Type of damage)	Structural Damage Reported	STR SAG
Type of repair  STR  Type of damage	Structural Damage Engaged  No Structural Damage	STR SAG I-Type

Figure 079-B-1 Rapid Plotting Symbology (12 of 28)

#### JAMMED ACCESS

Explana	ation	Example	
(Fitting type and number)	Jammed Access Reported	J QAWTD 1-220-2	
J	Jammed Access Engaged	QAWTD 1-220-2	
$\bigotimes$	No Jammed Access	QAWTD 1-220-2	

Figure 079-B-1 Rapid Plotting Symbology (13 of 28)

B-8

## HOLE-OVHD, BHD, DECK

Explanation	Example
H Hole Reported (Location; size in FT and IN)	H BHD 4 IN FR 96, STBD 2 FT off deck
(Location; size in FT and IN)	H BHD 4 IN FR 96, STBD 2 FT off deck
(Location; size in FT and IN)	BHD 4 IN FR 96, STBD 2 FT off deck

Figure 079-B-1 Rapid Plotting Symbology (14 of 28)

#### **COMPARTMENT INFORMATION**

Explanation		Example	
CD	Compartment Demolished	CD	
NAD	No Apparent Damage	<u>NAD</u>	
Figure 079-B-1 Rapid Plotting Symbology (15 of 28)			

ACN 2/A

#### **COMMUNICATIONS**

Explanation	Example
T (Circuit Lost) Lost Communications Reported	T
(Alternate Circuit)  T Lost Communications Engaged (Circuit Lost)	X40.J T 2.JZ
No Lost Communications	ZJZ 2JZ

Figure 079-B-1 Rapid Plotting Symbology (16 of 28)

# ELECTRICAL

Explanation	Example
E Electrical Power Lost	<u>E</u>
Electrical Power Lost Engaged	E
No Electrical Power Lost	

Figure 079-B-1 Rapid Plotting Symbology (17 of 28)

B-10

#### **ELECTRICAL DAMAGE**

Explanation	Example
ED Electrical Damage Reported	ED
Electrical Damage Engaged	ED
No Electrical Damage	

Figure 079-B-1 Rapid Plotting Symbology (18 of 28)

### **CASUALTY POWER**

Explanation		Example	
<u>CP</u>	Casualty Power Ordered	<u>CP</u>	
CP	Casualty Power Energized	CP	
Q	No Casualty Power Energized		
	I		

Figure 079-B-1 Rapid Plotting Symbology (19 of 28)

ACN 2/A

#### **CASUALTY POWER LOST**

Explanation	Example
CPL Casualty Power Lost Reported	CPL
CPL Casualty Power Lost Engaged	CPL
CRL No Casualty Power Lost	OR .

Figure 079-B-1 Rapid Plotting Symbology (20 of 28)

#### **MECHANICAL FAILURE**

Explanation Example

M Mechanical Failure Reported

M Mechanical Failure Engaged

No Mechanical Failure

No Mechanical Failure

Figure 079-B-1 Rapid Plotting Symbology (21 of 28)

B-12

#### **MECHANICAL DAMAGE**

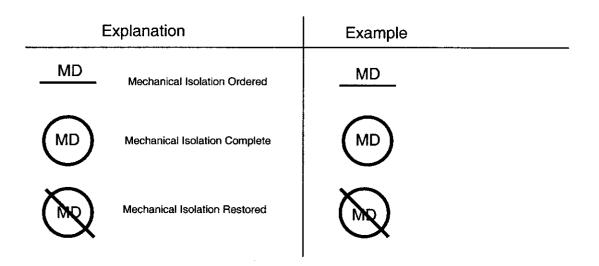


Figure 079-B-1 Rapid Plotting Symbology (22 of 28)

# PERSONNEL

Explanation	1	Example
P (Name and Billet if known)	Reported	<u>P</u>
P (Time)	Engaged	1315
(Time)	No Casualty	1345 1315

Figure 079-B-1 Rapid Plotting Symbology (23 of 28)

ACN 2/A

#### WEAPONS / ORDNANCE HAZARDS

E:	xplanation	Example
(Type) WPN	Casualty Reported	Torpedo WPN
(Type) WPN (Time)	Casualty Engaged	Torpedo WPN  1315
(Time)	No Casualty	1335

Figure 079-B-1 Rapid Plotting Symbology (24 of 28)

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#### **TOXIC GAS**

Explanation		Example
TOX (Hazard, if known)	Toxic Hazard Reported	TOX H <sub>2</sub> S
TOX	Toxic Hazard Engaged	TOX)
TOX	No Toxic Hazard	Tox H <sub>2</sub> S

Figure 079-B-1 Rapid Plotting Symbology (25 of 28)

## CHEMICAL CONTAMINATION

Explanati	ion	Example
СНМ	Chemical Contamination	СНМ
(Agent, Location if known)	Reported	Mustard FR 96, STBD
(Agent, Location if known)	Chemical Contamination Engaged	CHM Mustard FR 96, STBD
(Agent, Location if known)	Chemical Decontamination Complete	Mustard FR 96, STBD

Figure 079-B-1 Rapid Plotting Symbology (26 of 28)

ACN 2/A

#### **BIOLOGICAL CONTAMINATION**

nation	Example	
Biological Contamination Reported	BIO Ricin FR 96, STBD	
Biological Contamination Isolated	BIO Ricin FR 96, STBD	
Biological Decontamination Complete	Ricin FR 96, STBD	
 Figure 079-B-1 Rapid Plotting	,	
	Biological Contamination Reported  Biological Contamination Isolated  Biological Decontamination	

Explanation		Example
NUC (Agent, Intensity, Location if known)	Radiological Contamination Reported	NUC 180R/HR FR 102, STBD
(Agent, Intensity, Location if known)	Radiological Contamination Engaged	NUC 180R/HR FR 102, STBD
(Agent, Intensity, Location if known)	No Radiological Contamination	180R/HR FR 102, STBD

Figure 079-B-1 Rapid Plotting Symbology for Damage Control (28 of 28)

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079-B-1.1 MANUAL PLOTTING TECHNIQUES. Damage reports received at DC repair stations are to be recorded, plotted and forwarded to DCC. The overall ship's survivability status is illustrated by the plot maintained in DCC. All damage will be plotted on the DC subdivision plates. Additionally, damage to piping systems will be indicated on that system's DC plate by placing an "X" over the damage and drawing a circle around the cut out valves. Three DC rapid plotting techniques are:

#### 1. Line Method (see Figure 079-B-2)

- a. Draw a line from the affected compartment and connect a horizontal line to it.
- b. Plot along the horizontal line.
- c. Continue closing in the circle when updating the same piece of damage (instead of plotting each update separately).

#### 2. Box Method (see Figure 079-B-3)

- a. Draw a line from the affected compartment and create a box.
- b. Plot damage in the box.
- c. Continue closing in the circle when updating the same piece of damage (instead of plotting each update separately).

#### 3. Column Method (see Figure 079-B-4)

- a. Draw a line from the affected compartment and connect a vertical line to it.
- b. Plot damage along the vertical line.
- Continue closing in the circle when updating the same piece of damage (instead of plotting each update separately).

ACN 2/A B-17

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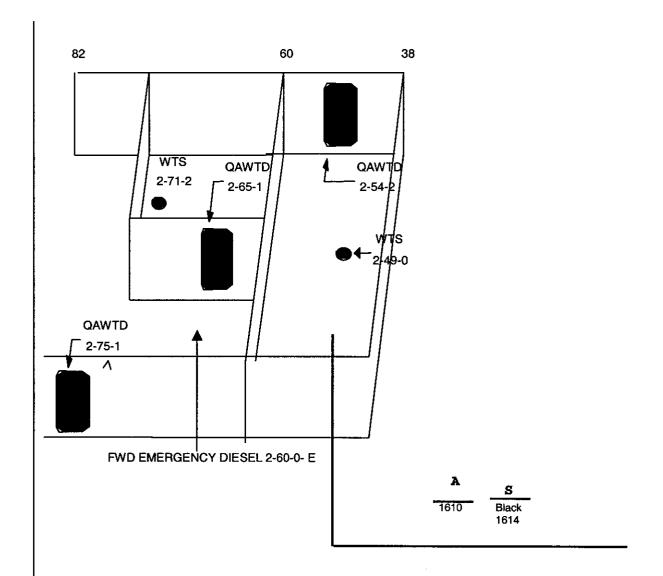
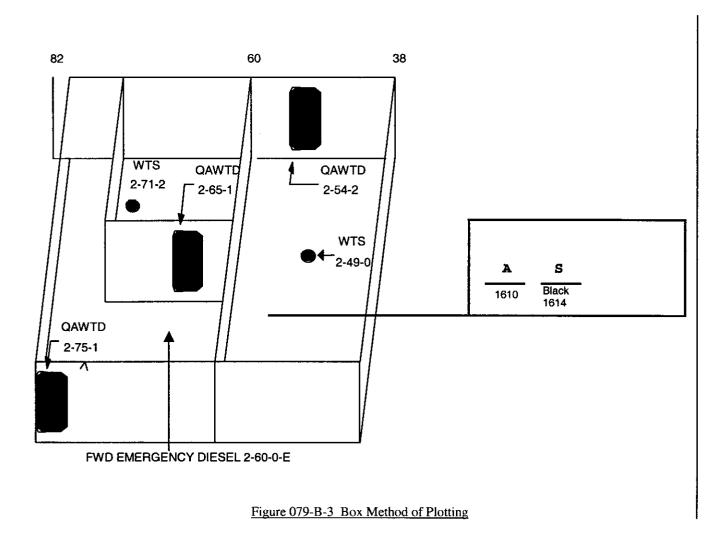


Figure 079-B-2 Line Method of Plotting

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ACN 2/A B-19

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ENCLOSURE (1)

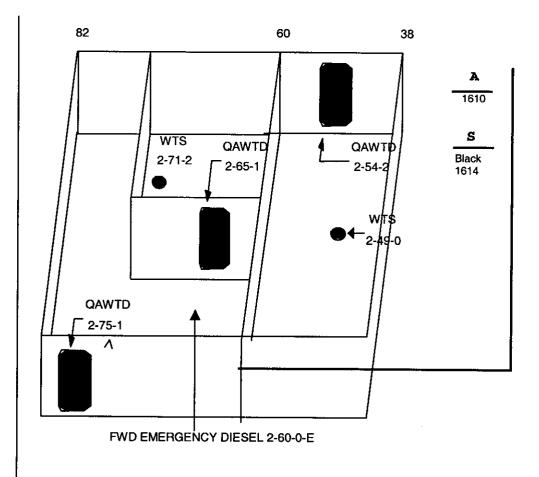


Figure 079-B-4 Column Method of Plotting

079-B-1.2 PREPRINTED MESSAGE FORMAT USE. The preprinted message blanks are used as a backup method of communications between DCC, DC repair stations and repair party members as illustrated in Figure 079-B-5. Preprinted message blanks are available for all major ship classes including Theater Surface Combatants, DDGs, LPDs, LSDs, LPD-17s, CV/CVNs, LHAs, LHDs, MCMs, MHCs and ARSs. The mandatory information required on all these standard message blanks includes the following:

- a. Each message blank contains five sections. They are:
  - 1. Address section
  - 2. Casualty space location within ship section
  - 3. Casualty location within space section
  - 4. Boundaries section
  - 5. Casualty report section.

B-20

- b. Damage should be pinpointed. When applicable, include:
  - 1. Compartment
  - 2. Frame
  - 3. Location
  - 4. Boundaries.
- c. All messages must indicate both sender and receiver.
- d. Only one report per message blank.

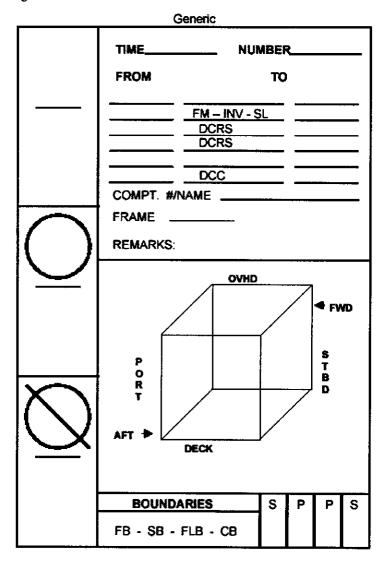


Figure 079-B-5 Damage Control Preprinted Message Blank (1 of 16)

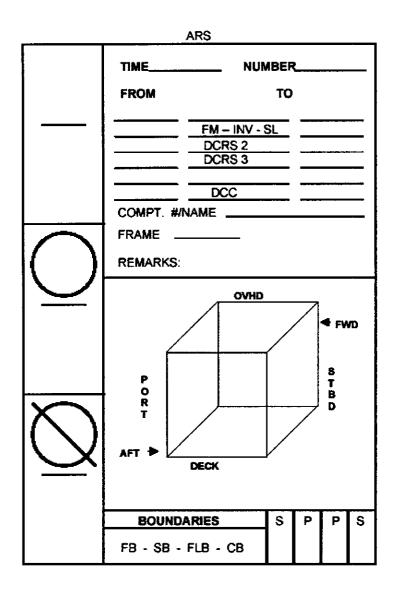


Figure 079-B-5 Damage Control Preprinted Message Blank (2 of 16)

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ENCLOSURE (1)

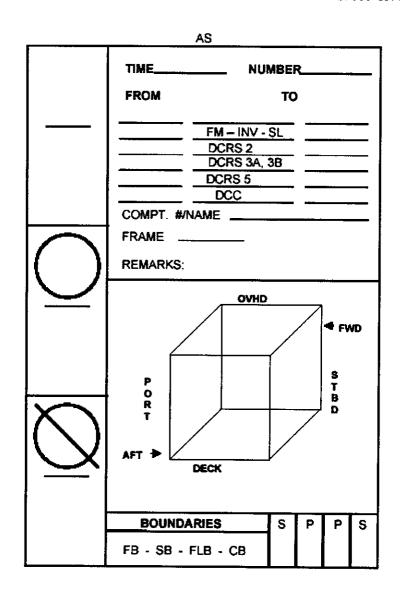


Figure 079-B-5 Damage Control Preprinted Message Blank (3 of 16)

ACN 2/A B-23

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ENCLOSURE (1)

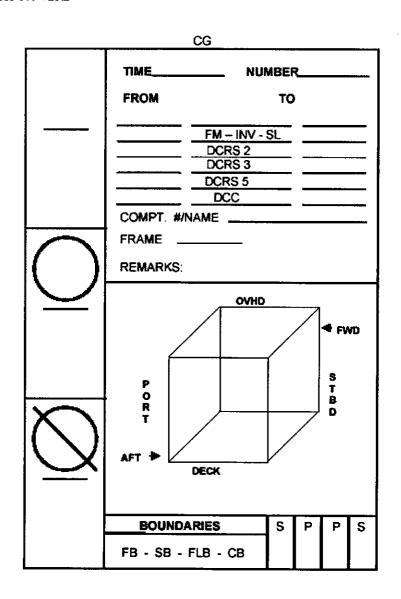


Figure 079-B-5 Damage Control Preprinted Message Blank (4 of 16)

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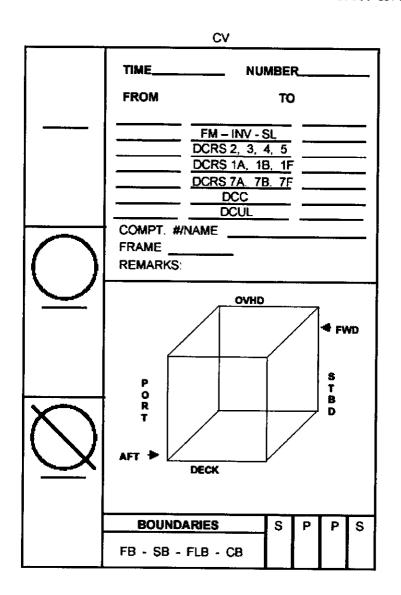


Figure 079-B-5 Damage Control Preprinted Message Blank (5 of 16)

ACN 2/A

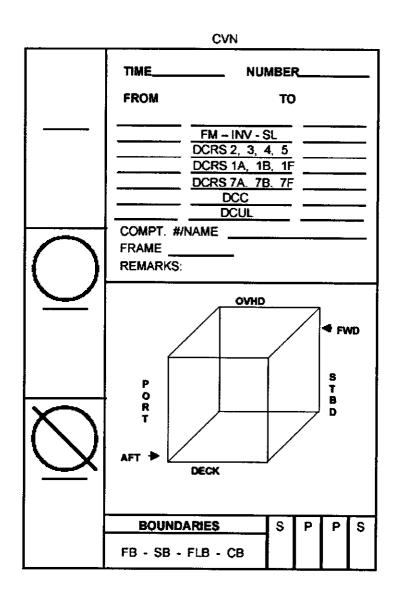


Figure 079-B-5 Damage Control Preprinted Message Blank (6 of 16)

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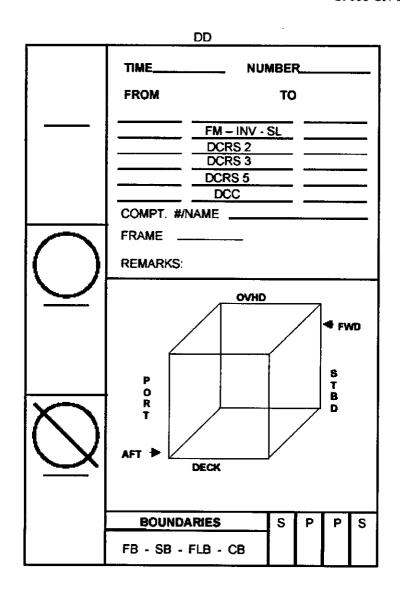


Figure 079-B-5 Damage Control Preprinted Message Blank (7 of 16)

ACN 2/A

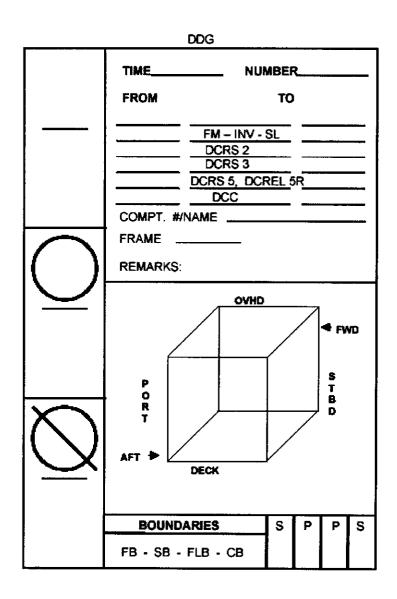


Figure 079-B-5 Damage Control Preprinted Message Blank (8 of 16)

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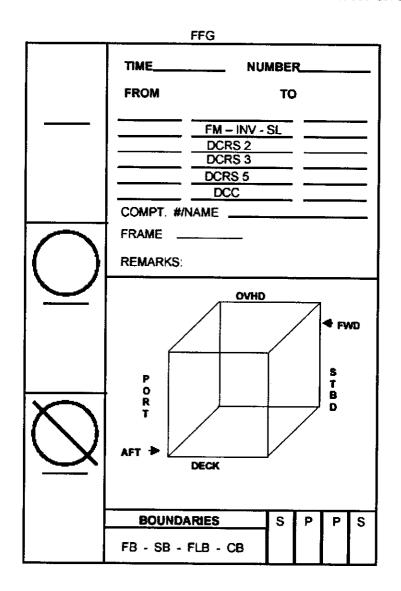


Figure 079-B-5 Damage Control Preprinted Message Blank (9 of 16)

ACN 2/A

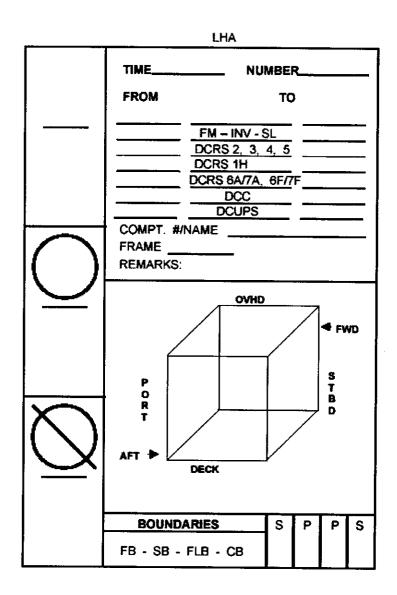


Figure 079-B-5 Damage Control Preprinted Message Blank (10 of 16)

B-30 ACN 2/A

ENCLOSURE (1)

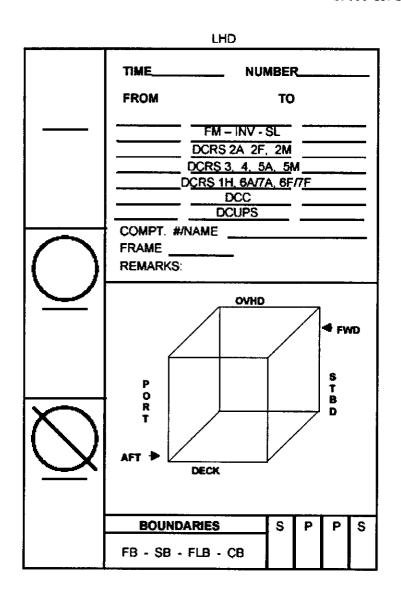


Figure 079-B-5 Damage Control Preprinted Message Blank (11 of 16)

ACN 2/A B-31

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ENCLOSURE (1)

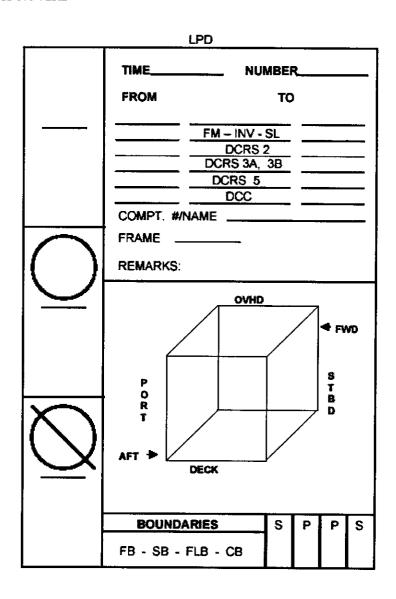


Figure 079-B-5 Damage Control Preprinted Message Blank (12 of 16)

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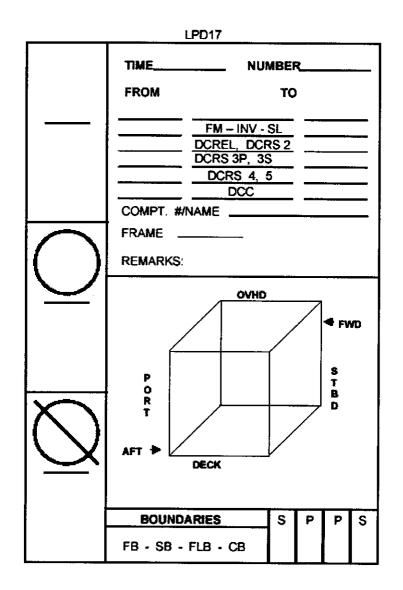


Figure 079-B-5 Damage Control Preprinted Message Blank (13 of 16)

ACN 2/A

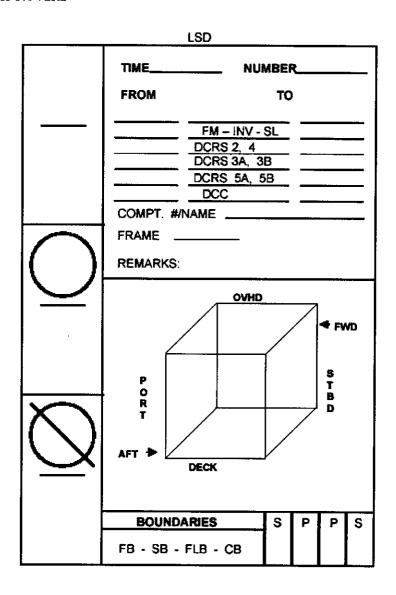


Figure 079-B-5 Damage Control Preprinted Message Blank (14 of 16)

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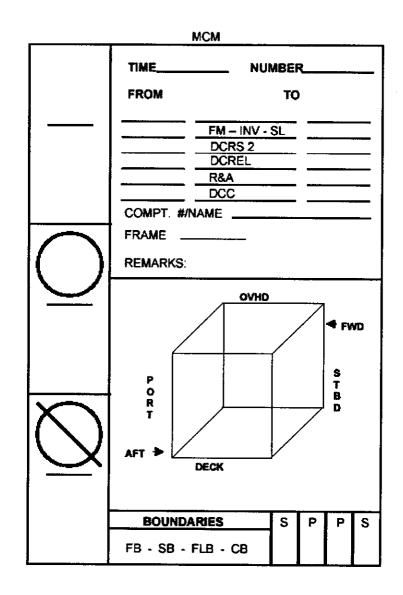


Figure 079-B-5 Damage Control Preprinted Message Blank (15 of 16)

ACN 2/A B-35

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ENCLOSURE (1)

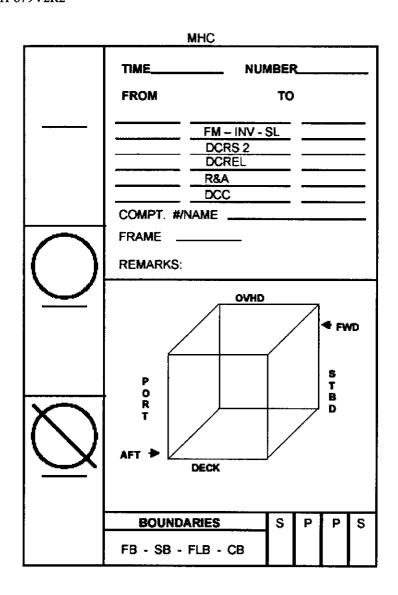


Figure 079-B-5 Damage Control Preprinted Message Blank (16 of 16)

B-36 ACN 2/A

ENCLOSURE (1)

FOR		T	1	<del></del>	T
	CASUALTY	SYMBOL		0	Q
FIRE	Fire	A,B,C,D	Reported	Engaged	No
FIRE	Smoke	B,W,U	Reported	Engaged	No
FIRE	Firefighting water	FFW	Reported	Engaged	No
FIRE	Fire protection system	AFF,C02,MSSM, Halon,HFP,WM,MD	Manned	Engaged	No
STR	Structural Damage	I, K,H	Reported	Engaged	No
STR	Jammed access	J	Reported	Engaged	No
STR	Hole	BHD,OVHD,DECK	Reported	Engaged	No
FLD	Rupture	JP5,FM,CW,FW,SW,FM,LO,FO,HM,ECW	Reported	Engaged	No
FLD	Flooding	FL	Reported	Engaged	No
FLD	Progressive flooding	PFL	Reported	Engaged	No
COMS	Communications lost	Т	Reported	Engaged	No
MECH	Mechanical failure	М	Reported	Engaged	No
MECH	Mechanical damage	MD	Reported	Engaged	No
PER	Personnel casualty	Р	Reported	Engaged	No
WPN	Weapons casualty	WPN	Reported	Engaged	No
CBR	Toxic gas	тох	Reported	Engaged	No
CBR	Chemical	CHM	Reported	Engaged	No
CBR	Biological contamination	BIO	Reported	Engaged	No
CBR	Radiological contamination	NUC	Reported	Engaged	No
INVT	Compartment demolished	CD	Reported	N/A	N/A
ELE	Casualty PWR Ord	СР	Reported	Engaged	No
ELE	Casualty PWR lost	CPL	Reported	Engaged	No
ELE	Ele PWR lost	E	Reported	Engaged	No
ELE	Ele damage	ED	Reported	Engaged	No
INVT	No apparent damage	NAD	Reported	N/A	N/A
BOUND	Smoke boundaries	SB	Ordered	Set	N/A
BOUND	Fire boundaries	FB	Ordered	Set	NA
BOUND	Flooding boundaries	FLB	Ordered	Set	N/A
BOUND	Casualty boundaries	СВ	Ordered	Set	N/A

Figure 079-B-6 Reverse Side of Damage Control Preprinted Message Blank

ACN 2/A

B-37 / (B-38 Blank)